ABSTRACT OF THE DISCLOSURE

The invention is in an apparatus for the remediation of particulate material and gaseous pollutants from a flue gas flow that is simple and highly efficient in removing nearly all toxic pollutants, particularly sulfur dioxide, from a flue gas flow, and includes a manifold that is to receive and pass a polluted flue gas flow that mounts an injector that is fitted into the manifold wall to inject finely ground sorbent materials counter-current to the flue gas flow, creating turbulence and a thorough mixing to effect compaction and/or agglomerization of the pollutant and sorbent particles..

The invention provides for a sensing of the moisture content of the flue gas flow of the compacted and agglomorized sorbent and pollutant particles and, as needed, as water as a fine or atomized mist a required humidity in the combined particulates as is suitable for particle separation in a particulate removal system as the invention is connected to, with, when the invention is arranged with a bag house particulate removal system, the moisture content of the compacted flue gas and sorbent material particles is maintained at from eighteen to twenty percent humidity.